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Aug. 1, 1974

TITAN ZOOMATIC MEASURING MICROSCOPE
MODEL TM-11 – PRICE COMPLETE $1550.00 WITH ALL ATTACHMENTS

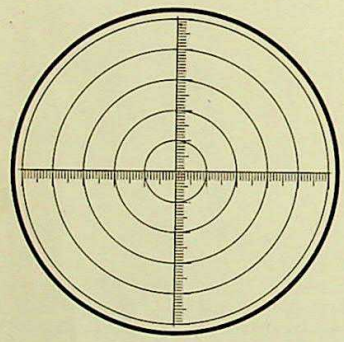
Modern technology demands an economical, versatile, optical instrument to measure complex dimensions, inspect shapes and examine surface finish. The inexpensive price of the Zoomatic places it within the reach of the small shop as well as allowing it multiple uses for production and quality control.
The TM-II Zoomatic is a significant advance in precision optical measuring. For the first time the advantages of zoom-optics have been combined to give a large range of magnifications (30x - 80x) with simple design to produce a Toolmakers Microscope that will measure in three coordinates, as well as give precise angular readings.

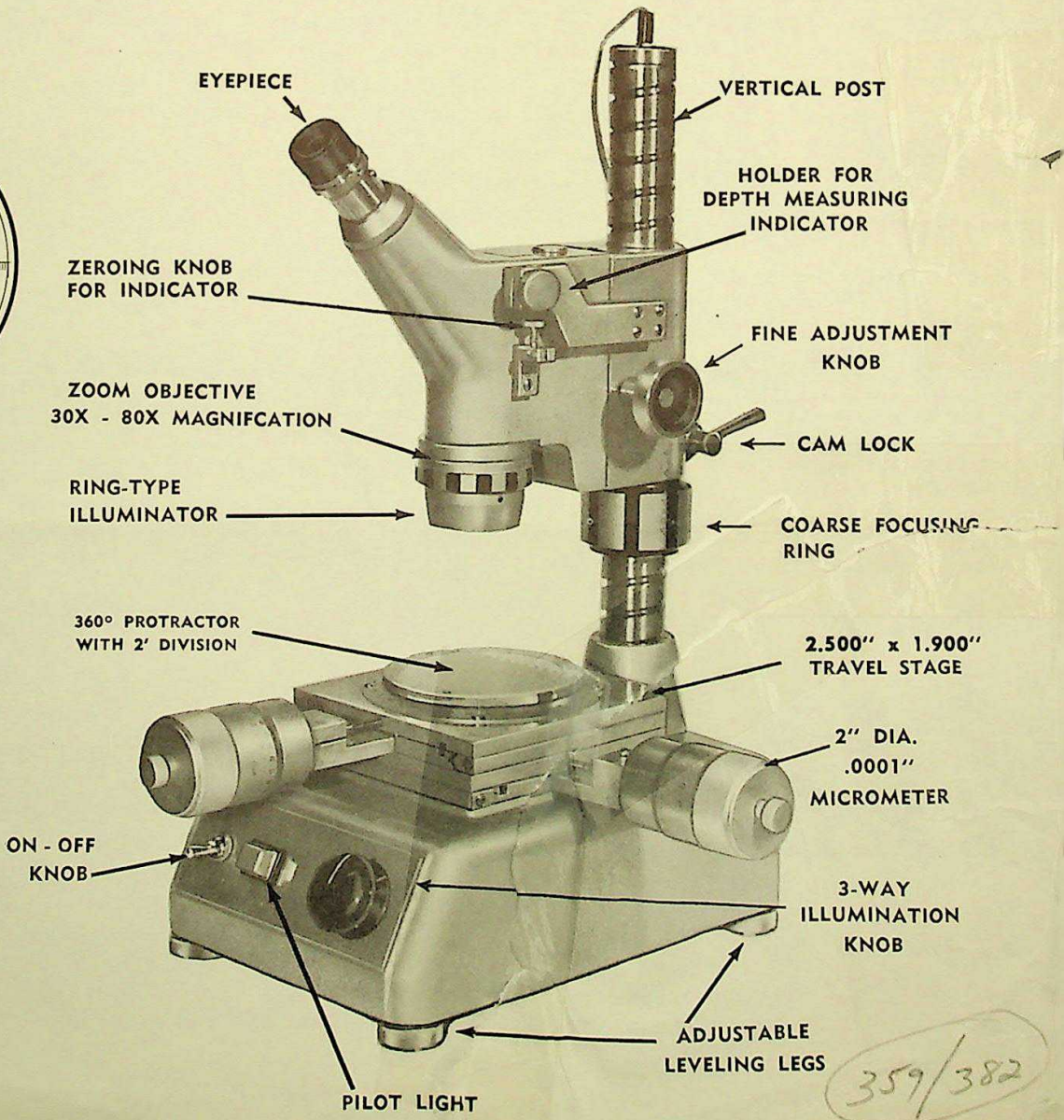
ADVANTAGES:
Precision: Stage has a 2.500"x1.900" travel with two large micrometer readings in .0001" increments (interpolations to .00005" can easily be made) and a rotary motion stage of 360° accurate to 2'. Height measurement through the use of dial indicator.

Economy: All the most desirable features and accessories are included in one standard unit at a moderate price.
Simplicity: The unit is constructed so that anyone can operate it to measure the most complex workpiece with repetitive accuracy, in a minimum of time.

ZOOM OPTICAL SYSTEM: The advantage of a Zoom Optical System over a conventional system is that a large range of magnification from 30x - 80x can be used interchangeably on examination of the Object. A low magnification can be used to see a large area and without re-adjusting the Focal Length, a turn of the knob gives high magnification for more detail studies of a section. The cross hair location will **Not** be changed through this **ZOOMING FEATURE.**

RETICLE





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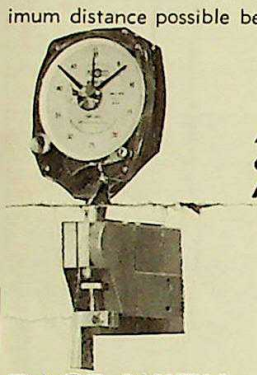
TOOLMAKER'S MICROSCOPE MODEL TM-II
MODEL TM-11 – PRICE COMPLETE $1550.00 WITH ALL ATTACHMENTS

CROSCOPE BASE: (Incl. optical frame, wooden carrying case)

E: MATERIAL — Cast Meehanite
— 7½" wide, 3½" high, 10¾" long, 4 adjustable leveling legs.
SH — Gray lacquer with surface that accommodates stage, hand scraped for perfect flatness. Contains green filtered sub stage illuminator and transformer.
TICAL POST: 14" high, 1⅜" diameter, holds coarse focusing ring on angular grooves.
USING: Coarse focusing with angular ring. Can be locked in position with cam-lever, fine adjustment with rack and pinion.

TICAL FRAME:

ATERIAL — Cast and seasoned meehanite
DJUSTMENT — with rack and pinion on dovetail grooves. Maximum travel 2⅛"
ZE — Front to rear — 10", Height — 6", inclined at 45° angle for easy usage.
imum distance possible between top of stage and bottom of surface illuminator 6⅝" when microscope is on the maximum vertical travel possible.



DEPTH MEASURING ATTACHMENT:

Attached to the top of the optical frame and used for measuring depth at 80X by the difference of focus principle. A clamp with a tightening knob is provided with a ⅜" hole for any standard A.G.D. indicator on the main housing. (Indicator is not included in the price.)

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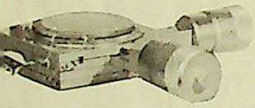
SIZE: — 5½" x 5½" square, 2½" high.

TAGE WITH ROTRACTOR:



MOVEMENT: 2½" in X axis, 1.900" in & axis. On hardened and ground ways, ball-loaded with ball bearings, 8 pcs. per each movement.

ROTARY MEASURING STAGE: — Screwed into X & Y movement stage divided by 1" intervals and has 360° rotation with 2' of a degree vernier (no charge).

GLASS CENTER DISC: — 3¼" in diameter.

ICROMETERS: — 2 pieces

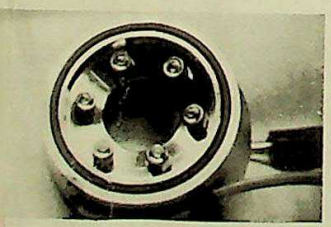
ZE: — 2" dia. travel 1" graduated in 1/10,000" reading directly on thimble with dual graduation system. Black in one direction, red in reverse

PTICS:

BJECTIVE — Zoom type magnification range 30X - 80X with graduation at 10X intervals with wide field of view. (The advantage of a zoom objective is, that a large field of view can be seen at 30X and a turn of the graduated knob gives a higher magnification 80X for more detailed studies, without losing the previous "set-up" or re-adjusting the focal length — accuracy of objective positioning to 1% maximum deviation). Only one lens necessary. No extra charge for many lenses.

ORKING DISTANCE: — .870" (with ring type surface illuminator attachment)
OCAL LENGTH: — 1.120"
OCULAR: — 10X magnification, rotable in mount for special positioning, and lockable with a thumb screw.
RETICLE: — 90° cross lines and 4 concentric circles with 10 line division between circles.
IMAGE: — Right side up, not inverted, with normal left to right orientation. Color coated & corrected for chromatic abberation.

LUMINATION: Ring Type Illuminator



SUBSTAGE — green filtered substage illuminator

SURFACE — Ring type illuminator that holds 6 bulbs 4-6 volts, inclined at a 30° angle at 60° intervals to give brilliant shadow free surface illumination. This feature is especially helpful in examining **bling holes.** With this light rays are projected in a conical shape.

WEIGHT COMPLETE: — 40 lbs. of the Microscope.
PACKAGING: — Four cases for shipment — 1 case each respectively, for Microscope Base & Optical Frame, Stage, & 2 Micrometers.

PRICE COMPLETE $1550.00